

CLAIMS

1. An established cellular line obtained after separation and putting in culture of cells of a spontaneous prostatic tumour existing in an animal B, the cells of the aforesaid line being likely to be grafted in the prostate of an animal A of the same species or of a different species, and characterised :
  - in that it contains antigens recognised by the human anti-PSMA antibodies ;
  - its carotype is at least 60 chromosomes.
2. The line in accordance with claim 1 recognised by the human anti-PSMA antibody is the PSM-P12 antibody registered with the CNCM the 6 August 1999 under the n° I-2280.
3. The line in accordance with one of the claims 1 or 2 carrying antigens recognised by the specific antibodies of the cytokerain 19 and the vimentin of human prostatic cells.
4. The line in accordance with any one of the claims 1 to 3 carrying antigens recognised by the antibodies directed against the human Ki67 antigen and/or against the human PSA antigen.
5. The line in accordance with any one of the claims 1 to 4 carrying antigens not recognised by the antibodies directed against the cytokerain 18 and/or against the androgenic receptors of prostatic epithelial cells.
6. The line in accordance with any one of the claims 1 to 5 for which the growth is not modified by the presence of variable levels of dihydrotestosterone.

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7. The line in accordance with the claims 1 to 6 characterised in that it is the DPC-1 line registered with the CNCM on the 6 August 1999 under the n° I-2279.
8. A production process of a non human mammalian animal A carrying a prostatic tumour comprising a grafting stage in the prostate of the aforesaid animal of  $10^7$  to  $10^9$  cells of an established cellular line in accordance with one of the claims 1 to 7.
9. The process in accordance with claim 8 wherein the animal A and the animal B are of the same species.
10. The process in accordance with claim 9 wherein the species is the dog.
11. The process in accordance with any one of the claims 8 to 10 characterised in that the animal is treated by an immunosuppressive drug simultaneous or sequential to the grafting of the cells.
12. The process in accordance with claim 11 wherein the immunosuppressive drug is the cyclosporin administered with a dose of between 1 and 10 mg per kg and per day to the animal at least two days before the aforesaid grafting.
13. A non human mammalian animal carrying a prostatic tumour, likely to be obtained by a process in accordance with one of the claims 8 to 12 by grafting in the prostate of the aforesaid animal of  $10^7$  to  $10^9$  cells of an established cellular line in accordance with one of the claims 1 to 7.
14. An animal in accordance with claim 13 characterised in that the prostatic tumour has the same characteristics

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as the cellular line in accordance with any one of the claims 1 to 7 and are characteristic of the prostate cancer in man.

15. A method for identifying a substance likely to treat a tumour of the prostate, the aforesaid method including the administration with effective doses of the aforesaid substance to an animal produced in accordance with any one of the claims 13 or 14 with the aforesaid substance, and the detection and the measurement, by comparison with a substance not suspected of having a therapeutic effect, of an effect on a reduction of the aforesaid tumour.
16. The method in accordance with claim 15 wherein the effect is detected and measured by immuno-imaging and/or by histological examination of a biopsy of the tumour.
17. The method in accordance with claim 15 wherein the detection and the measurement are carried out by coupling with a human anti PSMA antibody.
19. The method in accordance with claim 17 wherein the human anti PSMA monoclonal antibody is the PSM-P12 antibody registered with the CNCM on the 6 August 1999 under the n° I-2280 or a functional equivalent of that recognising the peptide 44-62 of the PSMA antigen.
19. The method in accordance with claim 15 wherein the substance is if the need arises coupled with a ligand of a specific receptor of tumorous cells of the prostate.
20. The method in accordance with one of the previous claims wherein an anti-idiotypic antibody recognising the conformational site of the coupling between the

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PSMA of specific antibodies of the PSMA is used to prevent the internalisation of these latter.

21. A process of obtaining a drug for the prophylaxis or the treatment of tumours of the prostate characterised in that, as an essential component of the aforesaid drug, a specific anti PSMA antibody from the N-terminal part of the extra cellular structure of the PSMA coupled with a substance identified in accordance with the method of claim 15 is made use of.
22. The process in accordance with claim 21 wherein the drug is a genic therapy drug and the substance chosen amongst the vectors or defective viruses used in this type of therapy.
23. The process in accordance with claim 21 wherein the substance is a chemical substance chosen in the group composed of GNRH hormones or one of their analogues.
24. The process in accordance with one of the claims 21 to 23 wherein the anti PSMA antibody is the PSM-P12 antibody registered with the CNCM on the 6 August 1999 under the n° I-2280 or a functional equivalent of that recognising the peptides 44-62 (cys - lys - ser - asn - glu - ala - thr - pro - lys - his - asn - met - lys - ala - phe -leu) of the PSMA antigen.
25. A PSM-P12 antibody registered with the CNCM on the 6 August 1999 under the n° I-2280 or a functional equivalent of that recognising the peptides 44-62 (cys - lys - ser - asn - glu - ala - thr - pro - lys - his - asn - met - lys - ala - phe -leu) of the PSMA antigen.

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26. A coupling product between a specific monoclonal antibody and a substance of therapeutic or diagnostic interest of the cancer of the prostate.
27. The coupling product in accordance with claim 26, wherein the antibody is the PSM-P12 antibody or a functional equivalent of that recognising the peptides 44-62 (cys - lys - ser - asn - glu - ala - thr - pro - lys - his - asn - met - lys - ala - phe -leu) of the PSMA antigen.
28. The use of the PSM-P12 antibody registered with the CNCM on the 6 August 1999 under the n° I-2280 or a functional equivalent of that recognising the peptides 44-62 (cys - lys - ser - asn - glu - ala - thr - pro - lys - his - asn - met - lys - ala - phe -leu) of the PSMA antigen in a targetting process on tumorous cells of the prostate of substances of diagnostic or therapeutic interest.

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